

## **6.6 Permit Processing/Public Comment/Post Public Notice Addendum**

The draft NPDES permit for the ArcelorMittal Indiana Harbor, LLC – Central Wastewater Treatment Plant was made available for public comment from August 15, 2011, through September 30, 2011, as part of Public Notice No. 2011-8F-RD/PH. In addition, a public hearing was held in Gary, Indiana, on September 15, 2011. During the comment period and at the public hearing, comments were received concerning the draft permit. Comments received at the hearing and/or submitted via email, and this Office's corresponding responses, are summarized below. Any changes to the permit and/or fact sheet are so noted below.

### **Mr. Kevin Doyle, Environmental Manager, ArcelorMittal USA LLC submitted the following comments**

#### **Comment 1: WATER QUALITY-BASED EFFLUENT LIMITS (WQBELs)**

ArcelorMittal understands that IDEM used the procedures at 327 IAC 5-2-11.4 and 11.6 to calculate Water Quality Based Effluent Limits for ArcelorMittal outfalls discharging to the Indiana Harbor Ship Canal (IHSC) and constructed a multi-discharger Waste Load Allocation model to ensure that water quality standards are maintained throughout the IHSC and as the IHSC meets Lake Michigan.

IDEM failed to use readily available, reliable site-specific data as part of the Waste Load Allocation model development and this can significantly impact calculation of the WQBELs. Specifically, IDEM failed to use background water-quality data at Dickey Road, and site-specific dissolved and total metals data for calculation of site-specific dissolved metals translators (DMTs). All of these data have historically been collected by IDEM and the failure to use current, scientifically sound site-specific data is unexplainable. Further discussion is presented below.

#### Background Water Quality

In its water quality assessment and development of WQBELs, IDEM determined background water quality using the cumulative allocated loadings from the upstream outfalls in the applicable study area. This is an overly conservative approach that ignores more than ten years of actual in-stream data. Those data reflect the cumulative and collective discharges of all dischargers upstream of Dickey Road. Actual in-stream data for the IHSC were developed by IDEM and are available for the IHC-2 monitoring station at Dickey Road. These data can be used to re-establish background water quality for the ArcelorMittal Indiana Harbor permits based on actual conditions. These data were summarized by ArcelorMittal and previously presented to IDEM.<sup>1</sup> Unexplainably, IDEM did not use these data to establish background water quality for the draft Indiana Harbor permits. Instead, IDEM used the cumulative allocated loadings upstream of this location to determine background water quality for the stream segment downstream of Dickey Road. This approach is impractical because it is not realistic to presume that all upstream dischargers would be discharging at or near their permitted mass loadings simultaneously. Using the actual in-stream data is more appropriate because the data represent actual conditions instead of projected concentrations based upon the presumption of discharges at allocated loadings. IDEM's choice not to use Dickey Road data to establish background concentrations is confusing in light of its comments contained in the supplemental documentation supporting the WLA analysis for the ArcelorMittal Indiana Harbor permits:

*“Developing background concentrations based on actual instream data is consistent with the regulations and accounts for the wastewater treatment that is occurring upstream of the subwatershed. Otherwise, overly conservative requirements can be placed on downstream dischargers.” (pg 17)*

These comments appear to demonstrate that IDEM not only supports, but prefers, the use of actual instream data to establish background water quality, where available.

Accordingly, the Dickey Road data must be used to ‘re-establish’ background water quality at the appropriate location in the IHSC for IDEM’s water quality assessment and calculation of QBELs. A comparison of the concentrations used by IDEM at Dickey Road and the actual IHSC concentrations at Dickey Road are presented below for fluoride, lead and zinc.

| Comparison of IDEM Predicted Concentrations at Dickey Road to Actual Concentrations   |   |                                      |
|---|---|--------------------------------------|
|   | IDEM Predicted Concentration at Dickey Road | Actual Concentration at Dickey Road* |
| Fluoride, mg/l  | 0.63  | 0.49                                 |
| Lead, Total, ug/l   | 8.5   | 4.0                                  |
| Zinc, Total, ug/l   | 36  | 25                                   |
| * Geometric mean of IHC-2 fixed monitoring station data January 2005 to December 2009 |   |                                      |

Using Dickey Road data as background concentrations leads to significantly less stringent preliminary QBELs for lead and zinc. ArcelorMittal’s requested effluent limits based on the Dickey Road background data, and other factors, are presented throughout these comments.

#### Dissolved Metals Translators

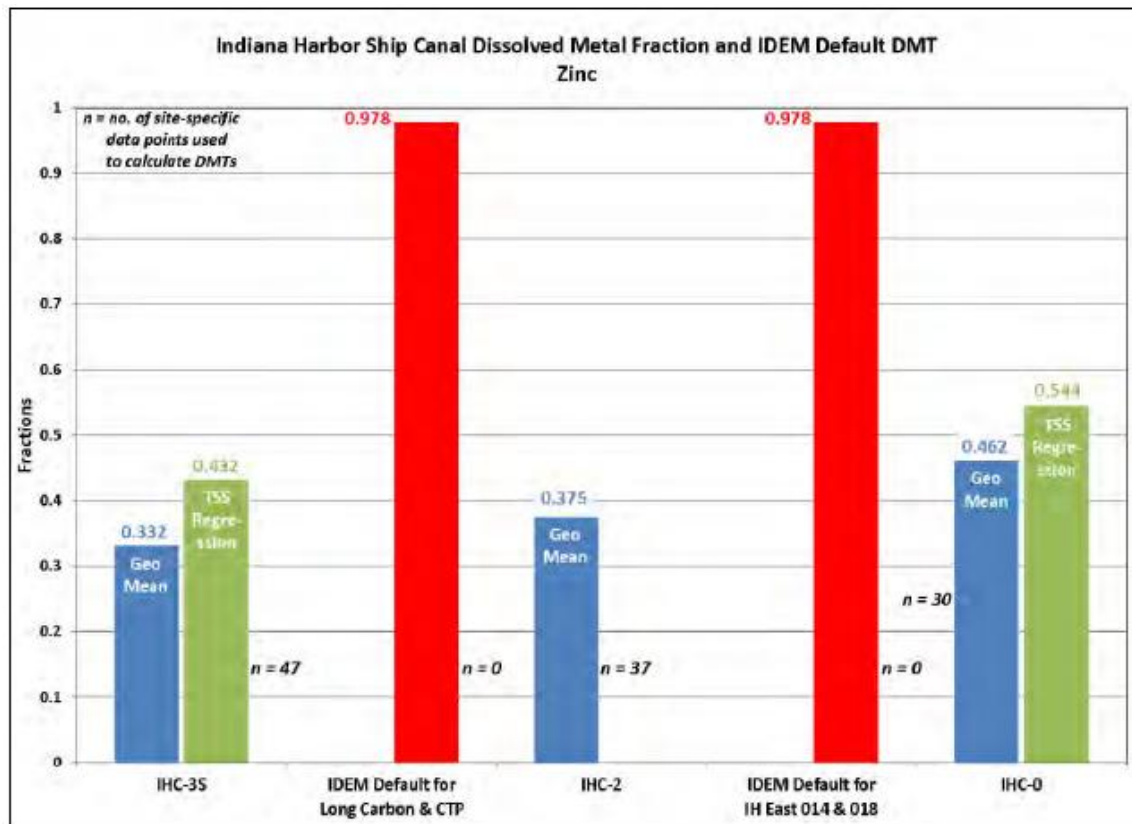
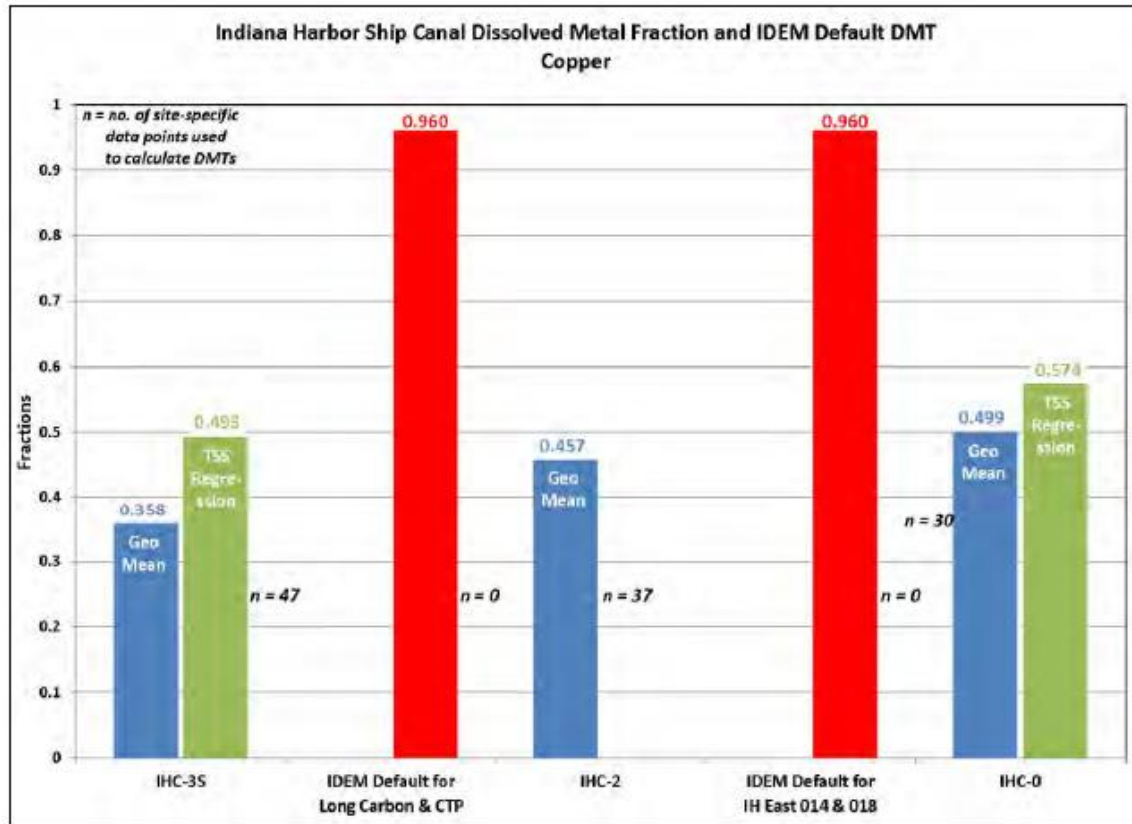
Total and dissolved data for copper, lead and zinc collected by IDEM from the Indiana Harbor Ship Canal at fixed monitoring stations IHC-2 (Dickey Road) and IHC-0 should be used to calculate site-specific dissolved metals translators (DMTs). These DMTs should be used in the calculation of preliminary water-quality based effluent limits for the Central Treatment Plant (CTP) Outfall 001, and Indiana Harbor East Outfall 014. Data collected by IDEM over a period of several years for these metals demonstrate that the majority of the copper, lead and zinc present is associated with particulate in the water column and is not in the dissolved form. Dissolved metals more closely approximate the bioavailable fraction in the water column than do total or total recoverable metals. Consequently, use of site-specific DMTs is well suited for the IHSC. The Dickey Road fixed monitoring station, located downstream of CTP Outfall 001, serves as an appropriate data set for calculating DMTs for development of QBELs for CTP Outfall 001. IDEM should consider the Dickey Road data representative of conditions in the IHSC and reliable because IDEM used the lead and zinc data collected at Dickey Road for another purpose in the NPDES permit renewal process for the ArcelorMittal facilities (*i.e.*, Dickey Road data were used to project the effluent quality from Indiana Harbor West Outfall 007 in IDEM’s multi-discharger WLA). The IHC-0 fixed monitoring station is located downstream of Indiana Harbor East Outfall 014.

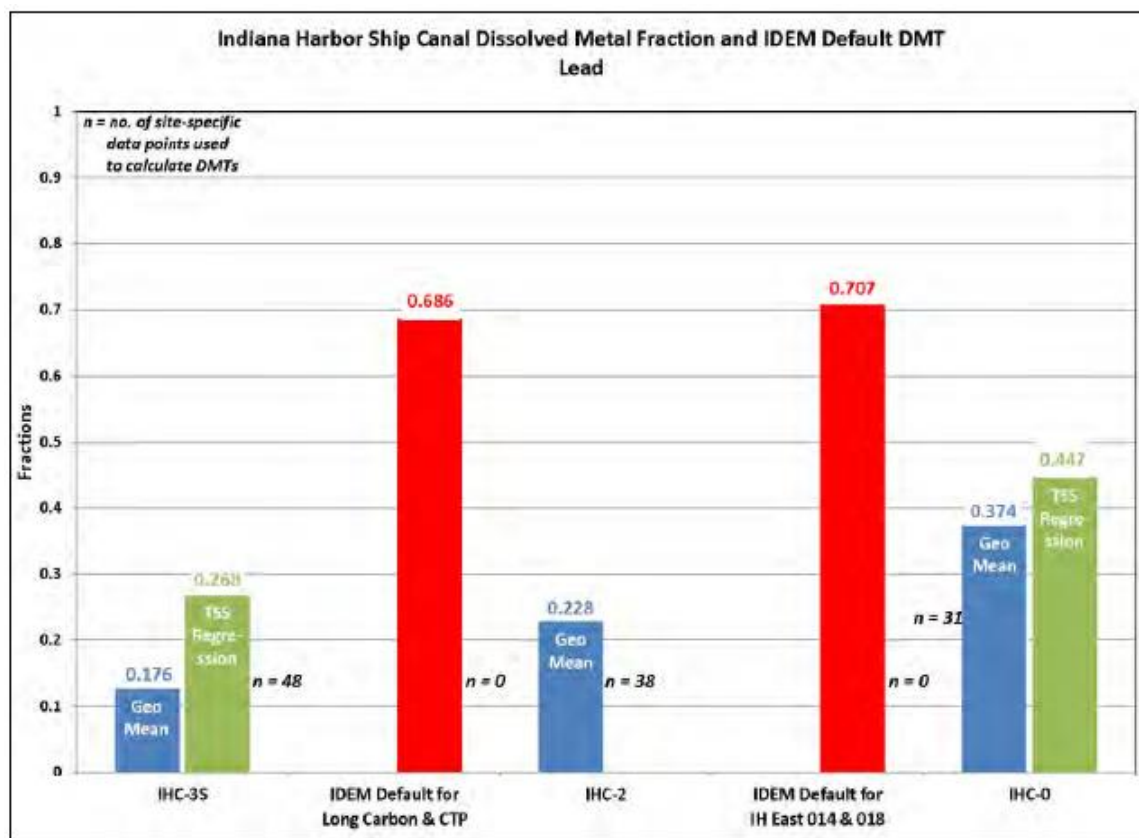
Per EPA guidance<sup>2</sup>, DMTs can be calculated as the dissolved to total metal fraction, and can be calculated from a correlation of the dissolved fraction to receiving stream TSS concentration. Following that guidance, DMTs for copper, lead and zinc were calculated from the Dickey Road and IHC-0 data and are summarized below. The dissolved and total metals data used in the DMT calculations are attached (see Attachment IHC-1). For comparison, IDEM's default translators that were used in the development of the proposed permit limits, and DMT's calculated from data collected by IDEM at fixed Station IHC-3S are also shown.

### Comparison of Indiana Harbor Ship Canal Dissolved Metal Fractions to IDEM Default Translators

|                                      |                            |   |                     |  |               |
|--------------------------------------|----------------------------|---|---------------------|--|---------------|
|                                      | IHC-3S<br>(Columbus Drive) | IDEM Default Translators for IHLC and CTP | IHC-2 (Dickey Road) | IDEM Default Translators for IH East 014 and 018 | IHC-0         |
|                                      | 1/04 to 6/09               | NA  | 1/04 to 1/08        | NA   | 1/04 to 10/06 |
| Copper                               |                            |   |                     |  |               |
| N                                    | 47                         | 0   | 37                  | 0  | 30            |
| Geometric Mean                       | 0.358                      | 0.960                                     | 0.457               | 0.960  | 0.499         |
| DMT by TSS Regression (TSS = 4 mg/l) | 0.493                      |   | NA                  |  | 0.574         |
| 95th Percentile                      | 0.716                      |   | 0.629               |  | 0.743         |
| Lead                                 |                            |   |                     |  |               |
| N                                    | 48                         | 0   | 38                  | 0  | 31            |
| Geometric Mean                       | 0.176                      | 0.686                                     | 0.228               | 0.707  | 0.374         |
| DMT by TSS Regression (TSS = 4 mg/l) | 0.268                      |   | NA                  |  | 0.447         |
| 95th Percentile                      | 0.472                      |   | 0.415               |  | 0.645         |
| Zinc                                 |                            |   |                     |  |               |
| N                                    | 47                         | 0   | 37                  | 0  | 30            |
| Geometric Mean                       | 0.332                      | 0.978                                     | 0.375               | 0.978  | 0.462         |
| DMT by TSS Regression (TSS = 4 mg/l) | 0.432                      |   | NA                  |  | 0.544         |
| 95th Percentile                      | 0.635                      |   | 0.574               |  | 0.774         |

IDEM's default DMTs, which rely on no data specific to the IHSC, are clearly inaccurate for the ArcelorMittal permits and overestimate the dissolved copper, lead and zinc fractions in the IHSC by significant amounts. For example, the default translators are 2.1, 3.0 and 2.6 times greater than the calculated geometric mean of the dissolved fractions for copper, lead and zinc, respectively, at IHC-2. Even the 95<sup>th</sup> percentiles of the dissolved fractions for all metals at all locations are significantly below IDEM's default translators. As shown, the DMTs calculated at IHC-3S, IHC-2 and IHC-0 are considerably lower than IDEM's default DMTs used in the calculation of WQBELs. Graphs of the geometric mean dissolved fractions, TSS-regression developed DMTs, and IDEM's default DMTs are presented below.





Given the data presented in the table and graphs above, it is not reasonable to assume, as IDEM has done through use of the default DMTs, that the dissolved metal fraction in the water column somehow increases dramatically in between the fixed monitoring stations. ArcelorMittal's requested effluent limits, based upon site-specific DMTs derived from the IDEM fixed monitoring station data and other factors, are presented below.

| ArcelorMittal Requested Effluent Limits for IH Central Treatment Plant (Copper, Lead and Zinc) |                                     |             |                 |             |                                     |             |                 |             |
|--|-------------------------------------|-------------|-----------------|-------------|-------------------------------------|-------------|-----------------|-------------|
| Pollutant  | Requested Outfall 001 Permit Limits |             |                 |             | Requested Outfall 101 Permit Limits |             |                 |             |
|  | Concentration (ug/l)                |             | Mass (lbs/day)  |             | Concentration (ug/l)                |             | Mass (lbs/day)  |             |
|  | Monthly Average                     | Daily Max.  | Monthly Average | Daily Max.  | Monthly Average                     | Daily Max.  | Monthly Average | Daily Max.  |
| Copper   | 47                                  | 81          | 2.5             | 4.4         | Report only                         | Report Only | Report Only     | Report Only |
| Lead   | Report Only                         | Report Only | Report Only     | Report Only | Report Only                         | Report Only | 9.4             | 19          |
| Zinc   | 360                                 | 720         | 20              | 39          | Report Only                         | Report Only | Report Only     | Report Only |

| ArcelorMittal Requested Effluent Limits for IH East Outfall 014 (Lead and Zinc) |                                     |             |                 |            |
|---|-------------------------------------|-------------|-----------------|------------|
| Pollutant   | Requested Outfall 014 Permit Limits |             |                 |            |
|   | Concentration (ug/l)                |             | Mass (lbs/day)  |            |
|   | Monthly Average                     | Daily Max.  | Monthly Average | Daily Max. |
| Lead  | 120                                 | 240         | 11.5            | 23         |
| Zinc  | Report only                         | Report Only | 14.91           | 44.69      |

#### Comments on Multi-discharger Wasteload Allocation Model

IDEM constructed a multi-discharger wasteload allocation model for ammonia, total residual chlorine, fluoride, sulfate, lead and zinc to ensure that water quality standards are maintained throughout the IHSC and as the IHSC meets Lake Michigan. Comments specific to lead, zinc and fluoride are presented below.

#### *Lead and Zinc*

At the ‘end’ of IDEM’s multi-discharger WLA model (i.e., the end of the IHSC and the beginning of Lake Michigan) IDEM shows a lead concentration of 9.9 ug/l, which is essentially equivalent to the chronic aquatic life water quality criterion. This ‘end-result’ creates the false impression that essentially all assimilative capacity in the IHSC has been consumed. Using more reasonable projected loadings from outfalls at which no WQBELs are warranted in conjunction with “re-establishing” background water quality at Dickey Road and accounting for the requested effluent limits throughout these comments shows that assimilative capacity remains in the IHSC, even when making the unrealistic assumption that all dischargers downstream of Dickey Road are simultaneously discharging at their maximum permitted levels. It is important that IDEM recognize this fact going forward, to avoid the false impression that essentially all assimilative capacity for lead in the IHSC has been consumed. This position could make future permitting of new discharges or expansion at existing dischargers a more difficult task than necessary.

In addition, IDEM significantly overestimated the pollutant loadings from certain ArcelorMittal outfalls in its multi-discharger WLA model. We understand that a WLA for an outfall derived from preliminary effluent limits serves as the input to the model to ensure that water quality standards are maintained. However, where no WQBEL exists, or where none is warranted, IDEM has overestimated pollutant loadings.

For Indiana Harbor Long Carbon, where the draft permit contains no WQBELs for lead and zinc, IDEM estimated discharges of 1.68 lbs/day of lead and 2.94 lbs/day of zinc based upon its default projected effluent quality (PEQ) procedure. However, implementing the projected effluent quality (PEQ) procedures at 327 IAC 5-2-11.5(b)(1)(B)(V), and considering the technology-based effluent limits at Outfall 602, allows for model input wasteload allocation discharges of 0.42 lbs/day lead and 1.38 lbs/day zinc. These wasteload allocations result in preliminary effluent limits which are

greater than the PEQs derived from 327 IAC 5-2-11.5(b)(1)(B)(V), and the Outfall 602 TBELs, and therefore adequately characterize the discharge from Indiana Harbor Long Carbon Outfall 001.

For Indiana Harbor East Outfall 018, IDEM estimated discharges of 6.24 lbs/day of lead based upon WQBELs derived pursuant to 327 IAC 5-2-11.4 and 11.6. However, as stated elsewhere in these comments, there is no reasonable potential to exceed these limits, and they should not be included in the renewal NPDES permit. Implementing the projected effluent quality (PEQ) procedures at 327 IAC 5-2-11.5(b)(1)(B)(V), and considering the technology-based effluent limits at Outfalls 518 and 618, allows a model input discharge of 5.31 lbs/day lead. This wasteload allocation results in preliminary effluent limits of 4.3 lbs/day (monthly average) and 9.0 lbs/day (daily maximum) lead. These values are greater than the PEQs derived from 327 IAC 5-2-11.5(b)(1)(B)(V) and the sum of the Outfall 518 and 618 TBELs, and therefore adequately characterize the discharge from Indiana Harbor East Outfall 018.

Printouts of IDEM's multi-discharger WLA model for lead and zinc that was modified to include Dickey Road data as background, the more accurate discharges from Indiana Harbor Long Carbon Outfall 001 and Indiana Harbor East Outfall 018, and ArcelorMittal's requested effluent limits are attached (see Attachment IHC-2). The results show remaining assimilative capacity throughout the IHSC and at Lake Michigan for lead and zinc.

#### *Fluoride*

IDEM made the same general errors for fluoride in its multi-discharger WLA model, as it did for lead and zinc. Namely, the discharges from certain ArcelorMittal outfalls are overestimated and IDEM did not 'reestablish' background fluoride concentrations at Dickey Road. A simplified mass balance accounting for Dickey Road data and discharges from Indiana Harbor East and West is presented in other comments. The results show minimal effect on the concentration of fluoride where the IHSC meets Lake Michigan.

<sup>1</sup> *Grand Calumet River, Indiana Harbor Water Quality Assessment, Lake Michigan Potable Intake Water Quality and Potential Impacts of ArcelorMittal Indiana Harbor East and West Plants*. Prepared for ArcelorMittal USA, Environmental Affairs, Richfield, Ohio, prepared by Amendola Engineering, Inc., Lakewood, Ohio. June 6, 2008, Water Quality Update April 2, 2009.

<sup>2</sup> *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criterion*, USEPA, June 1996

#### Response 1: **Water Quality-Based Effluent Limitations**

##### Background Water Quality

An explanation of the development of wasteload allocations including the calculation of background concentrations is included in the Fact Sheet of each permit. IDEM has historically developed wasteload allocations in the Grand Calumet River watershed by assigning wasteload allocations to point source discharges and using these wasteload allocations in the calculation of background concentrations for downstream dischargers. In the current modeling effort, IDEM decided to divide the Grand Calumet River watershed into three subwatersheds for the development of wasteload allocations. The ArcelorMittal discharges are located in the Indiana Harbor Canal/Lake George Canal/Indiana Harbor subwatershed which has as its headwaters the combined flow of the

East Branch and West Branch subwatersheds. The background concentrations for the Indiana Harbor Canal/Lake George Canal/Indiana Harbor subwatershed were not based on the accumulated wasteload allocations of the East Branch and West Branch subwatershed discharges, but were re-established using data collected at IDEM fixed station IHC-3S on the Indiana Harbor Canal at Columbus Avenue which is upstream of all point source discharges in the subwatershed. The Indiana Harbor Canal is subject to reverse flows as documented by U.S. Geological Survey (USGS) stream flow gage 04092750 at Canal Street. IDEM fixed station IHC-2 at Dickey Road is located about 0.6 miles downstream of the USGS gage at Canal Street and is more susceptible to reverse flows and dilution by Lake Michigan waters than IDEM fixed station IHC-3S which is located about 0.7 miles upstream of Canal Street. Under 327 IAC 5-2-11.4(a)(8), IDEM is required to use best professional judgment when determining what available data are acceptable for determining background. IDEM does not believe that it is acceptable to use data collected at fixed station IHC-2 to re-establish the background concentration at Dickey Road due to the documented reverse flows at Canal Street and the potential for samples collected at fixed station IHC-2 to be of downstream waters flowing upstream.

#### Dissolved Metals Translators

Indiana regulation under 327 IAC 5-2-11.4(c)(8) specifies the procedure for calculating wasteload allocations for metals with aquatic life criteria expressed in the form of dissolved metal. Under this regulation, unless a site-specific metals translator is developed, the metals translator is set equal to the default metals translator listed in the rule which is the criteria conversion factor used to derive the dissolved metal criterion. Default metals translators are established in this regulation for copper and zinc which also have aquatic life criteria established under 327 IAC 2-1.5-8. Default metals translators for lead are not established under 5-2-11.4(a)(8) because aquatic life criteria for lead were derived using the methodologies under 2-1.5-11 after 2-1.5-8 was promulgated. To be consistent with 5-2-11.4(c)(8), IDEM also applied the criteria conversion factor as the default metals translator for lead. Under 5-2-11.4(c)(8), a discharger may request the use of an alternate metals translator using site-specific data. The discharger must conduct a site-specific study to identify the ratio of the dissolved fraction to the total recoverable fraction outside the mixing zone and submit the study to IDEM to determine if it is acceptable. ArcelorMittal did request in letters dated June 6, 2011 and June 28, 2011 that IDEM use dissolved and total recoverable data collected by IDEM at Dickey Road (fixed station IHC-2) to develop metals translators for lead and zinc. However, a site-specific study conducted by ArcelorMittal was not submitted prior to the public notice of the draft permit. In their comments on the draft permit, ArcelorMittal submitted summarized total recoverable and dissolved metal data collected at IDEM fixed stations IHC-2 and IHC-0 for copper, lead and zinc along with metals translators calculated using the data. IDEM fixed station IHC-0 is in the vicinity of ArcelorMittal West Outfall 011 and may be within the mixing zone of this outfall which would make data collected at this location unacceptable for developing a metals translator under 5-2-11.4(c)(8). IDEM data collected at fixed station IHC-2 may be acceptable for developing metals translators and could be utilized as part of a site-specific study. Regardless, IDEM did not receive a site-specific study from ArcelorMittal and proceeded to calculate wasteload allocations for copper, lead and zinc using default metals translators as required under 5-2-11.4(a)(8).

#### Multi-discharger Wasteload Allocation Model:

##### *Lead and Zinc*



Lake Michigan water quality criteria must be met at the interface of the Indiana Harbor and Lake Michigan. Therefore, wasteload allocations for discharges in the Indiana Harbor Canal/Lake George Canal/ Indiana Harbor subwatershed must be allocated in a manner to ensure that Lake Michigan criteria are met at the end of the subwatershed. The multi-discharger model provides a means to ensure that Lake Michigan criteria are met during critical stream conditions for conservative pollutants. The model can be refined in the future based on revised outfall allocations, discharge flows and background concentrations. If a site-specific metals translator study is conducted and approved, it may be possible to increase the water quality targets (the applicable dissolved metal criteria divided by the metals translator) for lead and zinc in the subwatershed and in Lake Michigan, providing more assimilative capacity.

As noted in a prior response, IDEM does not believe it is acceptable to re-establish background at Dickey Road and has not received a site-specific metals translator study so the current multi-discharger model was not revised. IDEM did look at the impact of lowering the ArcelorMittal Long Carbon allocation, as requested, and did not find a significant impact on the calculation of downstream WQBELs. For future wasteload allocation considerations, a site-specific metals translator along with more refined effluent concentration characteristics will provide the greatest means of showing that more assimilative capacity is available than currently modeled.

**Comment 2: COMPLIANCE SCHEDULES FOR NEW WATER QUALITY-BASED EFFLUENT LIMITS**

The draft NPDES permits for each of ArcelorMittal's Indiana Harbor plants contain new water quality based effluent limits for mercury and other pollutants. There are only limited available intake and effluent data that suggest the intake and effluent concentrations at each facility are within the same range, meaning process wastewater and non-cooling water discharges may not be sources or not significant sources of these pollutants. In addition, additional monitoring in all cases is required in order to capture the variability in discharges of these pollutants in order to evaluate compliance with the proposed limits. As a result, ArcelorMittal requests 54-month compliance schedules for every new WQBEL in each permit. This will provide sufficient time to develop statistically significant databases, determine if there are any controllable sources and implement best management practices or other control strategies. ArcelorMittal requests that the 54-month compliance schedule provisions included in the ArcelorMittal Burns Harbor NPDES Permit (No. IN0000175) be used as a guide. We believe the limited available intake and effluent data for these facilities are not sufficient to establish WQBELs, to determine that the Indiana Harbor facilities are actual sources, or to advise facility management on whether the proposed new WQBELs can be achieved on a consistent basis. If one or more outfalls are determined to not be in compliance with one or more of the new WQBELs, then a 54-month compliance schedule will be necessary to evaluate potential options to address the source(s).

**Response 2:** For each pollutant receiving TBELs at an internal outfall, and for which water quality criteria or values exist or can be developed, concentration and corresponding mass-based WQBELs were calculated at the corresponding final outfall. The WQBELs were set equal to the applicable PELs from the multi-discharger model or the outfall specific spreadsheet. The mass-based WQBELs were then compared to the calculated mass-based TBELs. If the mass-based TBELs exceed the mass-based WQBELs at the final

outfall, the pollutant may be discharged at a level that will cause an excursion above a numeric water quality criterion or value under 2-1.5 and WQBELs are required for that pollutant at the final outfall. Except for mercury, this was the case for each WQBEL applied at a final outfall. Therefore, WQBELs are required for these pollutants regardless of the results of the reasonable potential statistical procedure. However, the results of the reasonable potential statistical procedure were used to help establish the monitoring frequency.

Using the EPA memo dated May 10, 2007 on Compliance Schedules for Water Quality Based Effluent Limits in NPDES Permits as guidance, in order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record, that the discharger cannot immediately comply with the WQBEL upon the effective date of the permit [40 CFR § 122.47, 122.47(a)(1)]. In considering ArcelorMittal's request, IDEM reviewed previously submitted data for the new water quality based effluent limits, RPE analyses, and internal technology based effluent limits as noted above. Based on that review, it was determined that in instances where the permittee appears to be capable of meeting new water quality based effluent limits upon permit issuance, the permittee is not eligible for schedules of compliance for those parameters at that outfall.

**Comment 3: MONITORING WAIVERS NAPHTHALENE AND TETRACHLOROETHYLENE**

The draft NPDES permits for Indiana Harbor West (Outfall 211, p. 19 of 77) and Indiana Harbor Central Treatment Plant (Outfall 101, p. 6 of 59) contain the following footnote regarding ArcelorMittal's request for monitoring waivers for naphthalene and tetrachloroethylene under 40 CFR §122.44(a)(2):

*At the end of a twelve month sampling period, the permittee may request in writing, a review of these monitoring requirements. Upon review by IDEM, the permit may be modified, after public notice and for hearing, to reduce or delete the monitoring requirements.*

ArcelorMittal requests the respective footnotes for Indiana Harbor West and Indiana Central Treatment Plant be modified as follows, and that the following footnote be added for the proposed naphthalene and tetrachloroethylene monitoring requirements for Outfall 014 at Indiana Harbor East:

*At the end of a twelve month sampling period, the permittee may request in writing, a review of these monitoring requirements pursuant to 40 CFR §122.44(a)(2). Upon review by IDEM, the permit may be modified, after public notice and for hearing, to reduce or delete the monitoring requirements.*

**Response 3:** IDEM agrees to the above request. However, this provision is being moved to the reopening provisions identified in Part I.J.7 of the permit. The additional reference to 40 CFR 122.44(a)(2) has been added in the Indiana Harbor West and Indiana Harbor Central Treatment Plant. The reopening provisions now states:

...to review the monitoring requirements pursuant to 40 CFR 122.44(a)(2). The permittee may request, in writing, a review of categorical monitoring

requirements. Upon review by IDEM, the permit may be modified, to reduce or delete the monitoring requirements.

Comment 4: **INTAKE 316(b) REQUIREMENTS**

Indiana Harbor Long Carbon and Indiana Harbor Central Treatment Plant Part III.D (Cooling Water Intake Structures) of the draft Indiana Harbor Long Carbon NPDES permit (p. 60 of 60) and Part III.B. of the draft Indiana Harbor Central Treatment Plant (CTP) NPDES permit (p. 58 of 59) require quarterly reporting by Indiana Harbor Long Carbon and by Indiana Harbor CTP that Indiana Harbor East and Indiana Harbor West, respectively, either are in or out of compliance with CWA Section 316(b). Neither facility has a cooling water intake structure and there is no regulatory basis to impose any CWA Section 316(b) reporting requirements on these facilities. In addition, holding these permittees accountable based on whether the water supplier is in compliance is inappropriate when the compliance condition is beyond the control of the permittee. This reporting is also duplicative because IDEM will receive such reporting from the primary facilities with cooling water intake structures. Accordingly, ArcelorMittal requests the above referenced sections of the Indiana Harbor Long Carbon and Indiana Harbor CTP permits be replaced with the following statements:

Indiana Harbor Long Carbon (Part III.D.)  
Indiana Harbor Central Treatment Plant (Part III.B.)

*The facility obtains its intake water from the ArcelorMittal Indiana Harbor East facility that is permitted as IN0000094 and whose CWIS is in compliance with the CWA Section 316(b) as noted in its permit. [substitute "Indiana Harbor West facility" for the Indiana Harbor CTP permit]. All monitoring and reporting requirements related to CWA Section 316(b) are contained in the above referenced NPDES permit for the Indiana Harbor East facility [substitute "Indiana Harbor West facility" for the Indiana Harbor CTP permit].*

Response 4: The above mentioned language, and the existing language in the permit, has been modified to read:

This facility obtains its intake water from the ArcelorMittal West Facility that is permitted as IN0000205 and whose CWIS is in compliance with the CWA Section 316(b) as noted in its permit. This permit will also be in compliance with Section 316(b) as long as the CWIS regulated under Permit IN0000205 is in compliance. The holder of this permit shall notify IDEM if the ArcelorMittal West Facility that supplies the water to this facility no longer holds an NPDES permit that regulates the CWISs.

~~On a quarterly basis, this facility will verify its compliance with Section 316(b) by reporting whether the water supplier (ArcelorMittal East IN0000094) "has been" or "has not been" in compliance with Section 316(b) of the CWA for that period. This will be reported by letter to be submitted with the March, June, September, and December DMRs.~~

Comment 5: **TEMPERATURE AND THERMAL LOAD MONITORING AND REPORTING**

The draft NPDES permits for ArcelorMittal's Indiana Harbor plants: IH East, IH Long Carbon, IH West and IH Central Treatment Plant, contain twice per week temperature

monitoring requirements and associated net thermal discharge loading reporting requirements for external outfalls discharging to the Indiana Harbor Ship Canal and Indiana Harbor. In the Fact Sheets for the NPDES permits, IDEM acknowledges that thermal discharges from the Indiana Harbor Plants do not pose a reasonable potential to exceed water quality standards for temperature. The reasonable potential evaluation is based on the results of instream sampling and a multi-discharger thermal model (see, for example, p. 32 of the Fact Sheet and pages 14 and 15 of Appendix A of the Fact Sheet for the draft IH West permit). The model results have been confirmed by studies that were conducted by Inland Steel and Ispat-Inland during 1997 and 1998 (see Attachment A below). Nonetheless, IDEM has determined that temperature and thermal loadings are pollutants of concern and has proposed the above-mentioned monitoring requirements, citing 327 IAC 5-2-11.5(e). ArcelorMittal disagrees with that determination.

In light of IDEM's finding that there is no reasonable potential to exceed the water quality standards for temperature within the Indiana Harbor Ship Canal and Indiana Harbor, the proposed temperature monitoring requirements and thermal discharge loading reporting requirements pose an unnecessary burden on these four facilities. While there is no particular Commissioner substantiation or rationale required by 327 IAC 5-2-11.5(e), that language was originally placed in the rule to allow monitoring based on situations where there is limited data and some evidence that there may be environmental harm. In this instance, there are sufficient data and historical documentation that the thermal discharges from these four facilities have neither caused exceedances of the temperature water criteria nor adversely impacted any biological species. These monitoring and reporting requirements are only monitoring for the sake of monitoring that will provide no useful direct information or data to assess compliance with ambient water quality standards. Therefore, these thermal monitoring and reporting requirements should be removed from the permits.

ArcelorMittal is willing to offer a periodic study approach that will provide definitive data to determine thermal discharge loadings from the Indiana Harbor Plants and definitive data to assess compliance with ambient Indiana water quality standards for temperature in the Indiana Harbor Ship Canal and Indiana Harbor. Following is the suggested language to be included in the permits as a replacement for the thermal monitoring and reporting requirements.

*“Not later than 90 days after issuance of this permit, the permittee shall submit to IDEM a quality assurance project plan (QAPP) for thermal load and in-stream temperature monitoring studies to be conducted during warm weather months twice during the term of the NPDES permit (second and fourth years). The studies shall include thermal load determinations for all ArcelorMittal facilities discharging to the Indiana Harbor Ship Canal and Indiana Harbor, and sufficient concurrent in-stream temperature measurements to assess compliance with Indiana water quality standards for temperature. IDEM will provide comments within 45 days of receipt of the proposed studies. If IDEM does not provide comments within 45 days, the permittee shall conduct the studies as proposed.”*

This special condition should be included in each NPDES permit for ArcelorMittal's Indiana Harbor NPDES permits and the outfall and intake temperature monitoring requirements and the associated thermal discharge reporting requirements should be removed.

Finally, as discussed previously with IDEM, ArcelorMittal routinely measures intake and effluent temperatures early in the morning of each monitoring day, typically before 8:00 AM when 24-hour composite samplers are serviced. Sample collection and temperature measurements are conducted using contract resources. Any requirement for conducting temperature measurements during the midafternoon would require dispatching sampling crews for additional hours at additional expense, for no perceived environmental benefit.

Response 5: A discussion of the thermal analysis is included in the Fact Sheet of each permit. Indiana has water quality criteria for temperature that apply each month of the year and monitoring requirements for thermal discharges must be designed to protect the receiving stream on a year round basis. IDEM developed a conservative, dilution only model to determine if any ArcelorMittal outfall has a reasonable potential to exceed for temperature for any month of the year. While long-term data are available for ArcelorMittal East and ArcelorMittal Long Carbon, limited data are available for ArcelorMittal Central WWTP and ArcelorMittal West. ArcelorMittal Central WWTP and ArcelorMittal West have not been required to conduct routine temperature monitoring since the permit was renewed in 1986. Data from July 1999 and April 2000 are available from Grand Calumet River TMDL sampling and permit application data are also available. The available data show that ArcelorMittal West Outfall 009 is the warmest of all the ArcelorMittal outfalls and discharge flow from Outfall 009 can increase significantly during summer months. As noted in the Fact Sheet of the ArcelorMittal West permit, actual effluent data for January and February are required to make a reasonable potential determination for Outfalls 009, 010 and 011 due to the absence of effluent data for these months. The thermal load and instream temperature monitoring studies requested by ArcelorMittal in place of routine outfall monitoring do not include winter months. The requested studies may also not capture worst case summer conditions since only two studies are proposed over five years. Therefore, IDEM believes that a conservative model and long-term seasonal outfall monitoring provide a reasonable means to screen the ArcelorMittal discharges for potential water quality impacts. The frequency of sampling and the requirement for only grab samples were also established to be consistent with the collection of other required outfall data.

In regards to the footnote dictating at what time temperature samples must be collected, additional language has been added. The facility now has the option of either sampling for temperature at the intakes and outfalls between 12pm and 4pm or installing equipment that will measure the highest temperature reading in a 24-hr. period.

Comment 6: **WHOLE EFFLUENT TOXICITY (WET) MONITORING FREQUENCY**

Biomonitoring Frequencies

The above-referenced draft NPDES permits contain proposed biomonitoring requirements as follows:

| Plant                                     | Outfalls<br>(TUc Thresholds)        | Initial Biomonitoring<br>Frequency | Follow-Up Biomonitoring<br>Frequency if No Toxicity<br>Demonstrated with Initial<br>Testing |
|---|-------------------------------------|------------------------------------|---|
| Indiana Harbor East                       | 014 (10.0)<br>018 (7.7)             | 3 consecutive months,<br>2 species | Quarterly, life of permit;<br>most sensitive species after 3<br>months with no toxicity     |
| Indiana Harbor<br>Long Carbon             | 001 (17.3)                          | 3 consecutive months,<br>2 species | Quarterly, life of permit;<br>most sensitive species after 3<br>months with no toxicity     |
| Indiana Harbor West                       | 009 (2.2)<br>011 (5.8)<br>012 (1.0) | None specified                     | Quarterly, life of permit;<br>most sensitive species after 3<br>tests with no toxicity      |
| Indiana Harbor Central<br>Treatment Plant | 001 (9.8)                           | None specified                     | Quarterly, life of permit;<br>most sensitive species after 3<br>tests with no toxicity      |

ArcelorMittal finds the proposed biomonitoring frequencies are inconsistent across the plants and are excessive. In the alternative, ArcelorMittal requests the biomonitoring frequencies be made uniform across the four permits as follows: two species, monthly for three months. If no toxicity is demonstrated, annual monitoring using most sensitive species determined as noted below.

#### Most Sensitive Species

The Indiana Harbor East and Long Carbon permits contain the following requirement:

*In the absence of toxicity with either species in the monthly testing for three months in the current tests, sensitive species will be selected based on frequency and failure of whole effluent toxicity tests with one or the other species in the immediate past.*

The Indiana Harbor West and Central Treatment Plant permits contain the following requirement:

*In the absence of toxicity with either species in the initial three (3) tests, sensitive species will be selected based on frequency and failure of whole effluent toxicity tests with one or the other species in the previous toxicity tests.*

ArcelorMittal finds these statements to be somewhat confusing with respect to determining the most sensitive species for subsequent testing after the initial three monthly tests, assuming no toxicity is demonstrated:

*In the absence of toxicity with either species in the initial three (3) monthly tests, the permittee will select the most sensitive species for subsequent testing based on evaluation of the toxicity response from the three (3) monthly tests, or from any prior toxicity tests conducted by the permittee.*

Response 6: For clarity, the Testing Frequency and Duration section (d.) has been modified to read “The chronic toxicity test specified in Part I.I.1.b. above shall be conducted monthly for three (3) months initially and thereafter at least once every quarter for the duration of the permit. After three tests have been completed, that indicate no toxicity as defined in

*section f. below, the permittee may reduce the number of species tested to only include the most sensitive to the toxicity in the effluent. In the absence of toxicity with either species in the monthly testing for three (3) months in the current tests, sensitive species will be selected based on frequency and failure of whole effluent toxicity tests with one or the other species in the immediate past.”*

**Comment 7: FREEZE PROTECTION**

ArcelorMittal requests that the discharge authorization statements for each internal and external Outfall in each of the Indiana Harbor permits contain freeze protection agents within the list of the authorized discharges. Seasonal use of antifreeze in process and cooling water systems is essential to protect such systems from freeze damage when idled or taken out of service during cold weather periods. Upon start-up, service water is added to these systems and the antifreeze is diluted and becomes a component of the discharges. ArcelorMittal previously provided IDEM with estimates of possible concentrations of antifreeze for Outfall 011 at Indiana Harbor East and Outfall 001 at Indiana Harbor Long Carbon, and proposed to do so as follows for other outfalls at the Indiana Harbor plants where freeze protection agents may be used.

To ensure such discharges are authorized and regulated in an appropriate fashion, ArcelorMittal requests the following footnote be added in the NPDES permits for each internal and external outfall at the four ArcelorMittal Indiana Harbor plants:

[x] The permittee is authorized to provide freeze protection for its process water, process wastewater and non-contact cooling water systems as necessary. Prior to discharge of the freeze protected water, the permittee shall provide IDEM estimates of discharge concentrations of the freeze protection agents.

**Response 7:** ‘Freeze protection agents’ are considered water treatment additives and are subject to IDEM’s approval procedures prior to discharge. No changes to the discharge authorization statements will be made at this time. Additional language has been added to Section 5.8 of this Fact Sheet acknowledging the anticipated use of freeze protection agents.

**Comment 8: MONITORING REQUIREMENTS FOR FREE CYANIDE AND FLUORIDE**

The above draft NPDES permits contain proposed routine monitoring requirements as set out below for free cyanide, fluoride and selenium. Water quality based effluent limits have not been proposed. Reportedly, the data will be used to determine whether the discharges pose a *reasonable potential* to cause or contribute to exceedances of water quality standards for the next renewal NPDES permits.

Indiana Harbor Central Treatment Plant (p.41 of 60)

|   | Monitoring Period<br>During Permit Term | Monitoring Frequency   | Sample Type             |
|---|---|------------------------|-------------------------|
| Outfall 001<br>Fluoride<br>Free cyanide | Life of permit<br>Life of permit        | 2 x month<br>2 x month | 24-hr composite<br>Grab |

Indiana Harbor West (p. 55 of 77)

|   | Monitoring Period<br>During Permit Term | Monitoring Frequency   | Sample Type             |
|---|---|------------------------|-------------------------|
| Outfall 002<br>Fluoride<br>Free cyanide | 36 to 47 months<br>36 to 47 months      | 2 x month<br>2 x month | 24-hr composite<br>Grab |
| Outfall 009<br>Fluoride<br>Free cyanide | 36 to 47 months<br>36 to 47 months      | 2 x month<br>2 x month | 24-hr composite<br>Grab |
| Outfall 010<br>Fluoride<br>Free cyanide | 36 to 47 months<br>36 to 47 months      | 2 x month<br>2 x month | 24-hr composite<br>Grab |
| Outfall 011<br>Fluoride<br>Free cyanide | 36 to 47 months<br>36 to 47 months      | 2 x month<br>2 x month | 24-hr composite<br>Grab |

The Fact Sheets for the draft Indiana Harbor permits state that a review of Indiana's Section 303(d) list shows there are no pollutants on the list that have the potential to impact waste load allocation analyses for the renewal of NPDES permits on a whole watershed basis (see Attachment A – Water Quality Assessment, p. 3). As shown below, available information and data, as well as Indiana's Section 302(d) list, demonstrate there is no reasonable basis for the proposed monitoring requirements.

Free Cyanide

The Indiana water quality standards for cyanide are for free cyanide as follows:

|   | ug/L | mg/L   |
|---|------|--------|
| Criteria Maximum Concentration                    | 22   | 0.022  |
| Criteria Continuous Concentration (4-Day Average) | 5.2  | 0.0052 |

Indiana's 2008 Section 303(d) list included the Grand Calumet River as impaired for free cyanide, but not the Indiana Harbor Ship Canal or Indiana Harbor. The draft 2010 Section 303(d) list is the same. The Fact Sheet for Indiana Harbor East (p. 26 of 111) and Fact Sheets for the other ArcelorMittal Indiana Harbor permits state there is a new Section 303(d) listing for free cyanide in Indiana Harbor. However, the "new listing" is not reported in the Indiana 2008 Section 303(d) list or the draft 2010 list.



The Fact Sheets further state the proposed monitoring requirements for free cyanide are based on data collected at the IHC-0 monitoring station in Indiana Harbor during 2000 and 2001. These data are at least 10 years old and, as shown below, do not reflect current conditions in Indiana Harbor. Attachment A to this comment is a compilation of available IDEM data for cyanide amenable to chlorination (CATC), free cyanide (F. CN) and total cyanide (T. CN) collected at monitoring station IHC-0 (Indiana Harbor) from January 1990 to March 2008 and at monitoring station IHC-2 (Indiana Harbor Ship Canal at Dickey Road) for the period January 1990 to February 2010. The Dickey Road monitoring station IHC-2 is downstream of Indiana Harbor Central Treatment Plant and Indiana Harbor Long Carbon and upstream of all Indiana Harbor East and West outfalls. The Indiana Harbor IHC-0 monitoring station is located downstream of all Indiana Harbor East outfalls and downstream of Indiana Harbor West Outfalls 002, 009 and 010, and in the immediate vicinity of where the discharge channel for Indiana Harbor West Outfall 011 empties into Indiana Harbor. Thus, the data collected at the IHC-0 monitoring station can be affected by the discharge from Outfall 011. Until recently, the discharge from Outfall 011 included treated process wastewaters from the blast furnaces and the sinter plant. These wastewaters can contain cyanide compounds. Unlike IHC-0, data obtained at the IHC-2 Dickey Road monitoring station provides a good representation of water quality in the upstream end of the Indiana Harbor Ship Canal.

The data for station IHC-2 show nearly all non-detect results at concentrations of  $< 0.005$  mg/L for all three forms of cyanide for the entire period of record from 1990-2010. During 2000 and 2001 there were a few detect values of only total cyanide in the 0.007 to 0.008 mg/L range. For the period 2002 to 2010, there were three detect values at 0.006 mg/L (Dec. 2002, Dec. 2003, Jan. 2005), all well below the CMC water quality standard of 0.022 mg/L. These data do not indicate impairment for free cyanide at and upstream of Dickey Road.

The data for IHC-0 show detections of all forms of cyanide during 2000 and 2001; however, all reported analytical results were  $< 0.005$  mg/L from 2002 through March 2008, when IDEM apparently suspended monitoring for total cyanide at station IHC-0. Thus, the data show CMC and CCC water quality standards for free cyanide have been attained at that location for at least six consecutive years, and at station IHC-2 for at least eight consecutive years. ArcelorMittal believes it is not appropriate to base considerations of impairment for free cyanide and NPDES permit monitoring requirements on data that are more than 10 years old.

Furthermore, available monitoring data for total cyanide at Indiana Harbor East and Indiana Harbor West external outfalls (July 2005 to June 2010) show most measurements of total cyanide are not present at levels above 0.005 mg/L, with average total cyanide discharge concentrations in the range of 0.005 mg/L to 0.013 mg/L on an outfall-by outfall basis (non-detect concentrations counted as present at 0.005 mg/L).

Given available monitoring data at stations IHC-0 and IHC-2 for the last several years and recent ArcelorMittal monitoring data for total cyanide, there is no basis to conclude the Indiana Harbor Ship Canal or Indiana Harbor are impaired for free cyanide, and no basis to include free cyanide monitoring requirements in the renewal NPDES permits for these four facilities. Thus, ArcelorMittal requests that free cyanide monitoring requirements be deleted from the NPDES permits for Indiana Harbor East, Indiana Harbor Long Carbon, Indiana Harbor West and Indiana Harbor Central Treatment Plant.

### Fluoride

The Indiana water quality standards for fluoride are 1.0 mg/L applicable to Lake Michigan and 3.4 mg/l applicable to the IHSC. The water quality standard for Lake Michigan was established to minimize or prevent increased levels of fluoride in Lake Michigan (see 327 IAC 2-1.5-8, Table 8-9 of the water quality standards – Additional Criteria for Lake Michigan). The standard applicable to the IHSC is a chronic aquatic life criterion. Available monitoring data for fluoride at the IHC-2 Dickey Road monitoring station (January 2005 to December 2009) show the geometric mean concentration of fluoride at that location is 0.49 mg/L, approximately one-half of the Lake Michigan water quality standard, and approximately one seventh of the IHSC aquatic life criterion.

Recent monitoring data (July 2005 to June 2010) for ArcelorMittal Indiana Harbor East and West facility outfalls are as follows:

| Plant/Outfall  | LTA Discharge Flow (mgd) | Average Fluoride Concentration (mg/L); (Number of data) | Gross Mass Loading (lbs/day) |
|--|--------------------------|---|------------------------------|
| Indiana Harbor East  |                          |   |                              |
| Outfall 011  | 84.7                     | 0.27 (8)  | 191                          |
| Outfall 014  | 11.5                     | 1.4 (2)   | 134                          |
| Outfall 018  | 15.9                     | 0.9 (2)   | 119                          |
| Total IH East  | 112.1                    |   | 444                          |
| Indiana Harbor West  |                          |   |                              |
| Outfall 002  | 11.2                     | 0.41 (1)  | 38                           |
| Outfall 009  | 55.3                     | 0.45 (20)   | 208                          |
| Outfall 010  | 36.6                     | 0.45 (20)   | 137                          |
| Outfall 011  | 23.4                     | 1.4 (19)  | 273                          |
| Total IH West  | 126.5                    |   | 656                          |
| Total IH East and West   | 238.6                    |   | 1,100                        |
|  |                          |   |                              |
| IDEM WQ Design Flow @ Canal Road (352 cfs)   | 227.5                    | 0.49 (geometric mean)                                   | 930                          |
|  |                          |   |                              |
| Total Indiana Harbor (WQ Design Flow does not include IDEM Lake Michigan Intrusion Flow) | 466.1                    | 0.52 (calculated)                                       | 2,030                        |
|  |                          |   |                              |
| IDEM Lake Michigan Intrusion Flow (132 cfs)  | 85.3                     | 0.07 (IDEM model data)                                  | 50                           |
|  |                          |   |                              |
| Total Indiana Harbor and Lake Michigan Intrusion Flow                                    | 551.4                    | 0.45 (calculated)                                       | 2,080                        |

This simplified mass balance approach to estimating fluoride concentrations in Indiana Harbor shows that when considering the net addition of flow from ArcelorMittal Indiana Harbor East and West and gross mass discharges of fluoride, the calculated concentration of fluoride in Indiana Harbor is 0.52 mg/L, again approximately one-half the Lake Michigan water quality standard of 1.0 mg/L. These calculations indicate that the ArcelorMittal Indiana Harbor East and West gross discharges of fluoride add only 0.03 mg/L of fluoride to the background concentration measured at monitoring station IHC-2

(Dickey Road), which is downstream of Indiana Harbor Central Treatment Plant and Indiana Harbor Long Carbon. The above monitoring data do not reflect the zero discharge wastewater treatment system installed at Indiana Harbor West, which will reduce the above-listed mass discharge from Outfall 011. When accounting for the Lake Michigan intrusion flow, the calculated fluoride concentration at the mouth of Indiana Harbor is 0.45 mg/L, well below the 1.0 mg/L Lake Michigan water quality standard. Furthermore, IDEM's multi-discharger WLA model overestimates discharges from the ArcelorMittal Indiana Harbor mills and fails to account properly for background fluoride monitoring data at Dickey Road.

The data presented in the table above demonstrate that discharges of fluoride from Indiana Harbor East, Indiana Harbor West, Indiana Harbor Long Carbon and Indiana Harbor Central Treatment Plant do not pose a *reasonable potential* to cause or contribute to exceedances of the water quality standards for fluoride in Lake Michigan and in the IHSC. Accordingly, ArcelorMittal requests the proposed monitoring requirements for fluoride be deleted from each of the four Indiana Harbor NPDES permits.

Response 8: Free Cyanide

The Indiana Harbor is included on the final 2010 303(d) list submitted by IDEM to U.S. EPA for free cyanide based on data collected in 2000 and 2001 at IDEM fixed water quality monitoring station IHC-0. The chronic aquatic criterion for free cyanide of 5.2 ug/l is near the reporting level of 5 ug/l used by IDEM for fixed station free cyanide data. Data reported as less than the reporting level may still be near the criterion as shown in TMDL sampling data collected in the Indiana Harbor Canal and Indiana Harbor in July 1999 and April 2000 using a more sensitive test method. Total cyanide is currently monitored at many of the ArcelorMittal internal and final outfalls, but little data for free cyanide are available. The total cyanide data include values reported above the chronic aquatic criterion for free cyanide. Since total cyanide is present at many of the ArcelorMittal outfalls and free cyanide has been shown to be present in the Indiana Harbor Canal and Indiana Harbor, a multi-discharger model for free cyanide is appropriate for the subwatershed. The monitoring requirements will allow the collection of long-term free cyanide data at final outfalls with known internal sources of total cyanide and provide a year of data at other final outfalls to provide sufficient information to characterize the variability of the discharges and conduct a multi-discharger model for free cyanide in the next permit renewal.

Fluoride

A multi-discharger model for fluoride was conducted based on known sources of fluoride in the ArcelorMittal discharges and known sources in the East Branch Grand Calumet River and West Branch Grand Calumet River that contribute to the background concentration. Limited data were available for some ArcelorMittal final outfalls that contain sources of fluoride at internal outfalls resulting in projected instream concentrations in the Indiana Harbor near the Lake Michigan criterion. Monitoring is being required to provide sufficient information to better characterize the variability of fluoride in the discharges and to conduct a multi-discharger model for free fluoride in the next permit renewal.

Comment 9: **MONITORING FREQUENCY FOR TOTAL RESIDUAL CHLORINE (TRC)**

Each of the draft NPDES permits for the Indiana Harbor plants contains proposed effluent limits and monitoring requirements for total residual chlorine (TRC) at external outfalls. The proposed monitoring frequencies are as follows:

| Plant, External Outfalls   | Proposed Monitoring Frequencies                |
|--|--|
| Indiana Harbor East<br>011, 014, 018<br>019<br>518<br>008 (only during emergency overflow) | 5 x week<br>1 x month<br>2 x week<br>1 x daily |
| Indiana Harbor Long Carbon<br>001  | 5 x week                                       |
| Indiana Harbor West<br>002, 009, 010, 011, 012   | 1 x daily                                      |
| Indiana Harbor Central Treatment Plant<br>001  | 1 x daily                                      |

As discussed previously with IDEM, ArcelorMittal conducts TRC monitoring at each plant using contract sampling and analytical resources. Monitoring frequencies of daily would require weekend monitoring at high cost. Given that historical TRC monitoring data for each plant do not indicate significant or frequent problems with TRC monitoring, ArcelorMittal requests that, except for Outfall 019 at Indiana Harbor East, the TRC monitoring frequencies for all external outfalls at each plant be set at no more than 5 x week. IDEM addressed this issue for the Indiana Harbor East and Indiana Harbor Long Carbon draft permits, but did not for Indiana Harbor West and Indiana Harbor Central Treatment Plant. ArcelorMittal believes this was an oversight and requests that IDEM set the TRC monitoring frequencies at Indiana Harbor West and Indiana Harbor Central Treatment Plant at no more than 5 x week.

Response 9: IDEM agrees that the IH West and IH CTP permits will be changed to reflect a TRC monitoring frequency of 5 X Week for each final outfall. In addition, the footnote corresponding to TRC monitoring frequency has been changed from:

*Monitoring for TRC shall be 1 X Daily during Zebra or Quagga mussel intake chlorination, and continue for three additional days after Zebra or Quagga mussel treatment has been completed.*

To:

*Monitoring for TRC shall be performed, at a minimum, during Zebra or Quagga mussel intake chlorination, and continue for three additional days after Zebra or Quagga mussel treatment has been completed.*

Comment 10: **ANALYTICAL METHODS, SAMPLE TYPES, WATER TREATMENT ADDITIVES, LOW VOLUME WASTES**

ArcelorMittal requests the following comments regarding monitoring requirements, analytical methods, water treatment additives and low volume wastes be addressed in each of the Indiana Harbor NPDES permits, as appropriate:

### 1. Analytical Method for Total Cyanide and Free Cyanide Monitoring Requirements

The most recent revision to 40 CFR Part 136 lists ASTM D 2036-98(A) as an approved analytical method for total cyanide, in addition to those listed in the draft permits. The permits should clearly specify that any method approved by EPA and published at 40 CFR Part 136 can be used for NPDES permit compliance monitoring. In addition, where monitoring for both total cyanide and free cyanide is required (i.e., Outfall 014 at Indiana Harbor East), ArcelorMittal requests that if the total cyanide analytical result is non-detect, the corresponding analysis for free cyanide can be waived.

### 2. Sample type for Total Phenols (Phenols (4AAP))

ArcelorMittal requests the sample type of total phenols be specified as “24-hour composite” instead of “grab” to correspond to current monitoring requirements and current monitoring practices. This would allow continued collection of ammonia-N and total phenols samples in one container and separation of samples in the laboratory. Otherwise, additional samples would have to be collected to meet the “grab” sample requirement for total phenols.

### 3. Water Treatment Additives

Footnotes regarding water treatment additives for each outfall in each permit require reporting of changes in dosage rates in accordance with Part II.C. 1. of the standard conditions. As part of the NPDES permit renewal process, ArcelorMittal provided IDEM lists of currently used water treatment additives for each Indiana Harbor facility and the respective estimated maximum dosage rates of each additive. Part II.C.1.b. of the standard conditions states notice to IDEM is required only when:

*“The alteration or addition could significantly change the nature of, or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in Part I.A. nor to notification requirements in Part II.C.9 of this permit.”*

ArcelorMittal’s interpretation of Part II.C.1.B. is that water treatment additives fall under the above reporting requirement. Because ArcelorMittal has reported to IDEM estimated maximum dosage rates of the water treatment additives, we believe this reporting requirement would not come into effect unless the previously reported maximum dosage rates were exceeded. Otherwise, taken literally, the reporting requirement would be virtually impossible to meet. For example, many non-contact cooling water and process water outfalls have effluent limits for total residual chlorine (TRC). Effluent dechlorination with sodium bisulfite is practiced to maintain compliance with the TRC effluent limits. The rates of application of sodium bisulfite are variable and are based on the amounts of TRC present. It would not be possible or reasonable to record changes in sodium bisulfite addition over the course of a day for each outfall. The same issue pertains to use of water treatment chemicals at process wastewater treatment facilities, but to a lesser extent.

To address this issue, ArcelorMittal requests the footnotes in each of the Indiana Harbor facility NPDES permits be modified as follows:

*“In the event that changes are to be made in the use of water treatment additives including dosage rates to Outfall 00x beyond previously reported estimated maximum dosage rates, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit.” emphasis added*

#### 4. Low volume wastes

For purposes of defining “low volume wastes” that may be discharged from boiler house and power station operations, ArcelorMittal requests that reverse osmosis reject water be considered “low volume waste”. We believe this is consistent with the specialized definition at 40 CFR §423.11(b) of the Steam Electric Power Generating effluent limitations guidelines which includes ion exchange water treatment system wastewaters as low volume waste. Reverse osmosis systems are now being used to replace many of the conventional ion exchange and water softening operations at large boiler house and power generating stations for boiler water make-up treatment.

Response 10: Analytical Method for Total Cyanide and Free Cyanide Monitoring Requirements  
IDEM establishes which analytical methods should be used in the NPDES permits, in part, to ensure that the data collected can be used adequately. Parameters identified in 40 CFR Part 136 often have many approved analytical methods at varying levels of detection (LOD) and quantitation (LOQ). Allowing a permittee to select any of those approved methods may not provide data at the factor of concentration needed. For example, if the permittee provided analytical data for a Reasonable Potential to Exceed analysis, a data set with values of <1 mg/l could not determine if a reasonable potential existed if the water quality criterion was at 0.5 mg/l. Therefore, IDEM determines which analytical method(s) can be used. The permittee may request to use another analytical method, however, and that request must be approved by IDEM prior to use for data collection.

#### Sample type for Total Phenols (Phenols (4AAP))

Grab samples should be used as the collection method for parameters that are: (i) relatively constant in the discharge; (ii) likely to change with storage such as temperature, residual chlorine, cyanides, phenols, pH, etc.; or (iii) likely affected by compositing such as oil and grease and volatiles. As the total phenols concentration in this permit is expected to be relatively constant, identified above as likely to change with storage, and is considered a volatile compound, the ‘grab’ sample method will remain.

#### Water Treatment Additives

IDEM agrees, in part, with the comment above regarding the footnotes directed at water treatment additives. However, IDEM proposes to incorporate the following statement in lieu of the one provided:

*“In the event that changes are to be made in the use of water treatment additives that could significantly change the nature of, or increase the discharge concentration of the additive, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit.”*

It is important to note that the dosage rate is not the only deciding factor when calculating the discharge concentration of a pollutant from a water treatment additive. Other factors that need be considered when determining the discharge concentration are, but not limited to, discharge flow, equipment used, physical conditions, etc.

#### Low Volume Wastes

The comment above regarding the classification of RO reject water as 'Low Volume Waste' does not appear to be applicable to Indiana Harbor West or Indiana Harbor Central Treatment Plant nor would such a change necessitate a revision to the effluent limitations at either Internal or Final Outfalls. No changes are necessary at this time.

**Comment 11: STORM WATER NON-NUMERIC CONDITIONS**

Each of the Indiana Harbor draft NPDES permits includes special conditions under Storm Water Non Numeric Conditions that are conditions of applicable Title V air permits. For example, paragraph 5.b. that references good housekeeping, is covered under the applicable requirements in the facility's Fugitive Dust Control Plan. Also, paragraph 10.c. references regular inspections of air pollution control equipment as well as monitoring inlets and outlets of air flow ducts to check for particulate deposition. These requirements are duplicative of requirements in the applicable Title V air permits. Accordingly, ArcelorMittal requests that IDEM remove these requirements from the draft NPDES permits for the Indiana Harbor facilities, specifically every action, inspection or reporting requirement related to air pollution control equipment and fugitive dust controls.

**Response 11:** The storm water non-numeric conditions are the same as those in other similarly issued Individual NPDES permits. As a delegated state program, the IDEM modeled its storm water permitting approach after the US EPA's storm water program. For duplicative conditions, in instances where actions taken to comply the Title V air permits also satisfy the storm water non-numeric conditions, the action can be documented in the SWPPP for compliance purposes.

**Comment 12: PCB DISCHARGE PROHIBITION**

#### Part III of Each Draft NPDES Permit

ArcelorMittal has implemented programs to eliminate transformers and capacitors containing PCBs from its Indiana Harbor facilities and has essentially eliminated PCB-containing transformers from electrical service. PCBs are not used in any process, water treatment or wastewater treatment operations. The draft Indiana Harbor NPDES permits contains provisions that prohibit discharges of PCBs. These conditions were first included in NPDES permits issued in the 1980's and earlier. Since that time, there have been significant advances in analytical science such that PCBs can now be detected in the low ng/L range and lower. Consequently, it may be possible to detect PCBs in discharges where the source is the intake water. Accordingly, ArcelorMittal requests the phrase "... attributable to facility operations" be added to the PCB discharge prohibition statement in each Indiana Harbor permit. Without this requested change, ArcelorMittal could be put in the untenable position of being required to treat large volume process wastewater and non-contact cooling water discharges for PCBs that are beyond its control and at levels that may be untreatable.

Response 12: The source of the prohibition says specifically: *“There shall be no discharge of polychlorinated biphenyl (PCBs) compounds such as those commonly used for transformer fluid.”* In essence, this is a prohibition on using compounds containing PCB compounds at these facilities. Should PCBs be detected in the discharge, the facility should take action to determine if the source is indeed the source water.

Comment 13: **POLLUTANT MINIMIZATION PROGRAMS**

Part I.B of each draft NPDES Permit contains requirements for Pollutant Minimization Programs (PMPs) for outfalls where total residual chlorine (TRC) is limited. A PMP program is also required for silver at Outfall 001 at Indiana Harbor Central Treatment Plant. Paragraphs (3) of the PMP requirements for the draft NPDES permits for Indiana Harbor East (p. 55 of 84) and Indiana Harbor Long Carbon (p. 37 of 60) require only *“Monitoring as necessary to record progress toward the goal.”*, whereas Paragraphs (3) contained in the draft NPDES permits for Indiana Harbor West (p. 48 of 77) and Central Treatment Plant (p. 34 of 59) prescribes more extensive set of monitoring programs. Also paragraphs (4) of the proposed PMPs require submission of an annual status report. Because monitoring data will be submitted as part of the monthly discharge monitoring reports, the requirement to submit an annual summary report is redundant and should be eliminated.

Consistent with the manner in which PMP requirements were addressed in the recently issued Burns Harbor NPDES permit, ArcelorMittal requests that the monitoring requirements for paragraphs (3) in the Indiana Harbor West and Indiana Harbor Central Treatment Plant NPDES permit be made consistent with those for Indiana Harbor East and Indiana Harbor Long Carbon, and that the paragraphs (4) annual reporting requirements be eliminated.

Response 13: For Indiana Harbor West and Indiana Harbor Central Treatment Plant, paragraph (3) will be made consistent with those for Indiana Harbor East and Indiana Harbor Long Carbon. However, the annual report is required in accordance with 327 IAC 5-2-11.6(h)(7)(A)(iv). The annual reporting requirements will not be removed.

Comment 14: **TETRACHLOROETHYLENE AND TOTAL TOXIC ORGANICS (TTO)**

The draft NPDES permit for the Indiana Harbor Central Treatment Plant contains proposed monitoring requirements for tetrachloroethylene (abbreviated as TCE in the draft NPDES Permit) and Total Toxic Organics (TTO) that specify the sample types as 24-hour composite (p. 5 of 59). TCE is a volatile substance. As such, the sampling method at 40 CFR Part 136 requires sampling in special vials equipped with flexible septa. The sampler must ensure that no air remains in the vial after it is capped with the septum. Because of this sampling requirement, one-time “grab” samples are typically specified in NPDES permits for TCE (*see e.g.*, Outfall 014 at Indiana Harbor East; Outfall 211 at Indiana Harbor West; Outfall 011 at Burns Harbor). ArcelorMittal requests the sample type for TCE be changed from “24-hour composite” to “grab” in the Indiana Harbor Central Treatment Plant permit to be consistent with 40 CFR Part 136 requirements and the other permits for the Indiana Harbor facilities.

TTO is a measure of the sum of toxic organic pollutants listed at 40 CFR §433.11(e) (Metal Finishing effluent limitations guidelines) that are measured at concentrations greater than 0.01 mg/L. The list of toxic organic pollutants includes several volatile



pollutants such as TCE as well as semi-volatile pollutants. The draft NPDES permit for Indiana Harbor Central treatment lists the sample type as “24-hour composite” for TTO. In this case the sample type should be “24-hour composite” for semi-volatile compounds that are part of the TTO and “grab” for volatile compounds that are part of the TTO. ArcelorMittal requests the sample type for TTO be modified accordingly.

Response 14: The sample type for TCE has been changed to ‘grab’. The sample type for TTO will remain as ‘24-hour composite’, consistent with other similarly issued NPDES permits.

**Ms. Jeanette Neagu, President, Save the Dunes and Mr. Lyman C. Welch, Water Quality Program Manager, Alliance for the Great Lakes submitted the following comments. Mr. Jesse Kharbanda, Executive Director, Hoosier Environmental Council, submitted a letter supporting the joint comments submitted by Save the Dunes and the Alliance for the Great Lakes.**

Comment 15: **Chromium Issues**

Health effects that can result from exposure to hexavalent chromium (also known as hex chromium or chromium-VI) include damage to the nose; anemia; intestinal and stomach damage; and cancer. The State of California is so concerned about this parameter that it has set a very low detection limit of 0.02 µg/L.

In 2010, ArcelorMittal West (TRI ID 46312LTVST3001D) reported through the Toxic Release Inventory (TRI) that 890 pounds of chromium compounds were discharged to the water, one of the highest amounts of chromium discharges reported in the Great Lakes Basin. IDEM has indicated that this chromium is removed from the wastewater in the Central Wastewater Plant and taken offsite for disposal, as might be evidenced by the 23,000 pounds of chromium compounds reported in the 2010 TRI as removed through this method. As a result of it being removed in the Central Plant, a specific provision was included in all of the permits that prohibits the discharge of chromium at any of the outfalls.

We don’t know if it was an oversight or intentional, but there is nothing in these permits that requires monitoring to make sure this prohibition is being followed, making enforcement more difficult. This is particularly important since they have reported discharging 890 pounds of chromium compounds directly to the water as late as 2010.

A continuous monitoring system for chromium compounds should be required in all the permits where chromium discharges are prohibited. Furthermore, we need assurances that the wastewater sludge from the Central Treatment Plant that then contains the chromium is handled in a lawful manner as it is taken off-site. Recent studies and media coverage of detections of chromium-6 in tap water, in addition to EPA’s current efforts to conduct human health risk assessments, also support the need for monitoring protocols for chromium in this permit. This is especially important because hexavalent chromium is more soluble and more mobile than the more naturally occurring chromium III, and also enters the water through airborne sources in the plant.

Response 15: While many facilities base their TRI data on monitoring data, others report estimated data to TRI, as the TRI program does not mandate monitoring. Various estimation techniques

can be used when monitoring data are not available, and EPA has published estimation guidance for the regulated community. Variations between facilities can result from the use of different estimation methodologies. These factors should be taken into account when considering data accuracy and comparability. It is also incorrect to equate the chromium compounds listed in the TRI as hexavalent chromium.

However, IDEM acknowledges the importance of verifying that hexavalent chromium is not being discharged from these facilities. Where required by federal effluent guidelines, total chromium limitations have been included in the proposed permits. Additionally, a prohibition against discharging wastewaters containing hexavalent chromium has been included in the proposed permit at potentially affected outfalls. IDEM will add hexavalent chromium monitoring at the potentially affected outfalls (Central Wastewater Treatment Plant) at a reasonable frequency in order to confirm that hexavalent chromium is not being discharged. IDEM doesn't require monitoring for "chromium compounds" as there are no water quality standards upon which to establish effluent limitations for "chromium compounds".

**Comment 16: Some Parameters May be Missing**

With respect to toxic pollutants, Clean Water Act Section 301 requires that NPDES permits "shall require application of "Best Available Technology" (BAT) to reduce pollutant discharges to the maximum extent "technologically and economically achievable," including "elimination of discharges of all pollutants" if it is achievable. Federal regulations promulgated by USEPA also require that "technology-based treatment requirements under Section 301(b) of the CWA represent the minimum level of control that must be imposed" in a NPDES permit. BAT is a stringent treatment standard that has been held to represent "a commitment of the maximum resources economically possible with the ultimate goal of eliminating all polluting discharges."

Technology-based effluent limitations (TBELs) are a necessary minimum requirement for a permit "regardless of a discharge's effect on water quality." Federal regulations require state permitting authorities to establish BAT effluent limits in individual NPDES permits on a case-by-case basis, using Best Professional Judgment (BPJ), "to the extent that EPA-promulgated effluent limitations are inapplicable." The use of the word "shall" in both the federal statute and regulations does not leave IDEM with any discretion as to whether TBELs should be established. Instead, TBELs must be established for every parameter reported in the TRI data. It is our contention that IDEM must set TBELs for all pollutants by determining BAT. Even if the ArcelorMittal facility is not discharging these pollutants in amounts that would implicate the applicable water quality standard or require a WQBEL, the Clean Water Act still requires that they be subject to TBELs.

The Clean Water Act requires that "the discharge of any pollutant by any person shall be unlawful" except, in pertinent part, if it is authorized by a NPDES permit. The Act further defines "discharge of a pollutant" to mean "any addition of any pollutant to navigable waters from any point source." Requiring effluent limitations for even small discharges of pollutants is consistent with the Clean Water Act's statutory goal of "elimination of discharges of all pollutants."

Accordingly, although some pollutants reported in ArcelorMittal's TRI reports may only be discharged in small amounts, they still constitute "discharges of a pollutant" that are illegal under the Clean Water Act unless subject to appropriate TBELs. IDEM needs to

review the TRI and revise the draft permit to incorporate such missing TBELs before ArcelorMittal's NPDES permits can be lawfully renewed.

Response 16: For the reasons outlined in Response #15, the TRI is not appropriate data source for establishing permit effluent limitations.

Development of limitations for every possible pollutant which could potentially be present in the discharge is not feasible. Technology based effluent guidelines are not always established for every pollutant present in a point source discharge. In many instances, EPA promulgates effluent guidelines for an *indicator* pollutant or pollutants. Industrial facilities that comply with the effluent guidelines for the indicator pollutant(s) will also control other pollutants (e.g., pollutants with a similar chemical structure). For example, EPA may choose to regulate only one of several metals present in the effluent from an industrial category, and compliance with the effluent guidelines will ensure that similar metals present in the discharge are adequately controlled. Additionally, for each industry sector EPA typically considers whether a pollutant is present in the process wastewater at treatable concentrations and whether the model technology for effluent guidelines effectively treats the pollutant.

Comment 17: One of the most serious concerns we have with this permit is the schedule of compliance proposed for this facility to meet new effluent limitations for mercury. Mercury is an especially dangerous parameter of concern since it bioaccumulates in fish tissue, and can adhere to sediments in all the affected water bodies. Lake Michigan, in particular, does not have a ready ability to heal itself as it takes more than 90 years for its waters to recycle and turn over. In addition, more than adequate studies have been done that prove that sediments in this area contain conditions that are sufficient to alter the chemical composition of fish tissues to the extent that the human uses of fishery resources in that area are adversely affected.

<http://www.fws.gov/midwest/GrandCalumetRiverNRDA/documents/Volume1.pdf>

While the Great Lakes Initiative (GLI) allows Indiana to provide flexibility on compliance schedules, the key words are "shall not exceed five years or the term of the NPDES permit, whichever is less." That does not automatically mean that 54 months (4.5 years) is the standard amount of time granted. The effluent limitations should come as no surprise to ArcelorMittal, and we just don't see why it should take 54 months to ramp up to meet the standards.

It is our understanding that, as soon as the permit is approved, ArcelorMittal must in order of sequence:

1. Develop a Quality Assurance Project Plan (QAPP) within three months that identifies sources of mercury in the wastewater being treated.

- It is our belief that this QAPP should take into account a mass balance study of all sources of mercury including air, water and solid waste such as secondary wastewater sludge.
- Once the QAPP is approved by IDEM, how much time will then be allotted to identify those sources? Is it possible to negotiate this timeline within the permit?
- Will the QAPP be made available for comment by the public?

2. Then develop a Final Plan for Compliance (FPC) to achieve compliance with the final effluent limits.

- Will there be an opportunity for public comment on the FPC?

3. Implement the FPC within 24 months.

- 24 months seems too long. We request that the FPC be implemented in 12 months.

We also want to have some assurances that there is a high degree of certainty that all these plans and schedules are realistic and achievable.

Response 17: Part I.F of the permit outlines the procedure for achieving compliance with the final effluent limitations for mercury. That section dictates that the permittee submit a QAPP report to IDEM no later than 3 months from the effective date of this permit outlining, among other things, the methods with which the permittee will identify sources of mercury. Another report is due no later than 15 months of the effective date of this permit that includes the previous 12 months sampling data for mercury and any pollution prevention activities implemented. A second QAPP report is due no later than 27 months from the effective date of this permit that includes the previous 24 months sampling data for mercury, an evaluation of the pollution prevention activities and treatment technologies, any additional control measures put in place since the last report, and the anticipated date when the permittee will submit the FPC.

The proposed FPC will contain the source identification report and a plan for implementing any pollution prevention or treatment technologies to achieve compliance with the final effluent limitation for mercury no later than 30 months from the effective date of this permit. Follow-up reports are due no later than 39 and 48 months, respectively, identifying progress and milestones contained in the FPC. The permittee shall comply with the final effluent limitations for mercury as soon as possible, but no later than 54 months from the effective date of this permit.

The QAPP and FPC will become public documents. However, they will not be placed on Public Notice for review and comment by the public.

IDEM believes that implementing the FPC in 12 months is not a reasonable expectation due to the comprehensive analysis and critical examination required to be performed as part of the Schedule of Compliance and associated reports.

**Comment 18: Missing Total Maximum Daily Loads (TMDLs)**

It is amazing to Save the Dunes and the Alliance for the Great Lakes that IDEM reportedly spent \$1 million to complete TMDL assessments on the Grand Calumet in 2001, and then never developed the TMDLs. Wasteload allocations used throughout all the permits are not sufficient because they are looking at parameters on a case-by-case basis and not the whole stream. You are not considering the other sources that might be contributing to impairments in the entire AOC.

We request that the necessary TMDLs be developed prior to the next renewal for these permits; and we invite IDEM and USEPA to work with Save the Dunes to make sure this

happens, just as we are working together to develop TMDLs for the Salt Creek Watershed. TMDLs are a critical step to resolving impairments in the AOC; impairments that have far-reaching consequences beyond the AOC into Lake Michigan – and also impact a visitor's ability to enjoy the Indiana Dunes National Lakeshore.

Response 18: The IDEM Permitting Branch agrees that TMDLs are a critical step to resolving impairments in the AOC. There are many extenuating circumstances to be taken into consideration for TMDL approval. The Permitting Branch has no control over if and when TMDLs are developed and approved and must work with the most recent and applicable resources at their disposal.

In the event TMDLs have been developed and approved for the waterbodies which receive discharges from these ArcelorMittal facilities during the next permit renewal cycle, the information will be taken into consideration during the development of water quality based effluent limits and completion of RPE analyses. IDEM encourages Save the Dunes and other organizations to keep working with IDEM and EPA on projects such as the development of TMDLs.

Comment 19: **Thermal Concerns**

While we appreciate the in-stream sampling and modeling that has been done to prove that ArcelorMittal does not have a reasonable potential to exceed a water-quality criterion for temperature, it is our contention that continuous in-stream monitoring should be required as opposed to grab sampling. Grab samples are only as good as the sample. This is especially important since the Clean Water Act requires the permittee to demonstrate that the balanced indigenous community of aquatic organism is protected and maintained. We also need to know if US Fish and Wildlife, DNR and other staff were consulted during this study because thermal concerns have a major impact on impairments in the AOC.

Response 19: Based on multi-discharger thermal model, the discharges from these ArcelorMittal facilities do not have a reasonable potential to exceed a water quality criterion for temperature. Therefore, continuous monitoring is not justifiable. Under 5-2-11.5(e), the commissioner may require monitoring for a pollutant of concern even if it is determined that a WQBEL is not required based on a reasonable potential determination, therefore monitoring for temperature and thermal discharge was included in this permit. IDEM believes that sampling twice weekly at the selected outfalls and intakes is sufficient to provide representative data of the temperature output from the outfalls.

Comment 20: **Typographical Error**

On page 32, line 5 of the permit it should say "prevention" not "prevent."

Response 20: The above mentioned changes have been made.

Comment 21: **Procedure for Whole Effluent Toxicity**

An overall goal of the GLI is to have consistency among the Great Lake States. We understand that USEPA disapproved Indiana's WET procedure in 2000 and therefore WET testing procedures in this permit must conform to EPA guidance and national

standards in 40 C.F.R. 122.44(d)(1). IDEM must ensure that the WET procedures described in the permit comply with these federal standards to USEPA's satisfaction.

Response 21: IDEM's current WETT requirements have been reviewed and approved by IDEM's Toxicologist. US EPA has reviewed the WETT requirement as well and has no objections. Therefore, IDEM is confident that the program complies with federal standards to USEPA's satisfaction.

Comment 22: **Phenols**

Save the Dunes and the Alliance for the Great Lakes would like to applaud IDEM for proposing that the variance request for phenol (4AAP) not be renewed in the West facility permit as stated in that permit's Citizen's Summary. It does not appear that this same denial was in the other permits, however, including this Central Wastewater permit. Please clarify that for us.

Response 22: This comment incorrectly states that the phenols variance wasn't renewed in the West permit. The 301(g) variance request for phenols was renewed in the Indiana Harbor West permit. The variance for phenols was **not** renewed in the Indiana Harbor East permit. The variance renewal for the West facility was approved based on a review of the data available and the other qualifying factors identified in section 301(g) of the CWA. The variance request does not currently, or historically, been applicable to the wastestreams contributing to the Central Wastewater Treatment Plant. Therefore, the 301(g) variance request is not addressed in this permit.

Comment 23: In addition, we are wondering if any consideration might be given to using carbon filters in all the control technologies to reduce phenol pollution. For example, in the East Facility Permit, it is our understanding phenols are controlled using carbon filters that the blow down from Nos. 5 & 6 blast furnace recycled system is treated through clarifiers for solids remove and carbon filtration to control phenols and is then discharged to the Main Plant Recycle System through internal Outfall 613.

Response 23: Phenols are not a parameter of concern for this NPDES permit.

**Mr. Jim Sweeney, President, Izaak Walton League, PCC (Porter County Chapter), submitted the following comments.**

Comment 24: **Chromium**

ArcelorMittal reported through the Toxic Release Inventory (TRI) that 890 pounds of chromium compounds were discharged to the water of Lake Michigan. Reportedly it is removed from the wastewater and a provision was included in each of the permits that prohibit the discharge of chromium at any of the outfalls.

This is welcome but we have found no requirement that calls for monitoring to make sure this happens. A monitoring system should be required in all the permits where chromium discharges are prohibited.

Response 24: Please refer to responses #15 and #16 above to comments submitted by Save the Dunes and the Alliance for the Great Lakes.

**Comment 25: Mercury**

Mercury is an especially dangerous toxin because it bioaccumulates in fish tissue and can adhere to sediments in water bodies. One of the most serious concerns we have with this permit is the schedule of compliance for these facilities to meet new effluent limitations for mercury.

We request that these new permits include a Final Plan for Compliance that will be implemented in 24 months that addresses all sources of mercury pollution.

Response 25: Please refer to response #17 above comments submitted by Save the Dunes and the Alliance for the Great Lakes.

**Comment 26: Total Maximum Daily Loads (TMDLs)**

IDEM reportedly spent \$1 million to complete TMDL assessments on the Grand Calumet in 2001, and then did not develop the TMDLs. Waste load allocations used in these permits are not sufficient because they are looking at individual parameters on a case-by-case basis and not the whole stream. Refer to the definition of TMDL. All sources must be considered.

TMDLs need to be developed prior to the next renewal for these permits. They are a critical step to resolving impairments in the AOC.

Response 26: Please refer to response #18 above comments submitted by Save the Dunes and the Alliance for the Great Lakes.

**Comment 27: Other Concerns**

The permits should require constant monitoring of all outfalls due to the potential for serious discharges for the entire range of pollutants and chemicals used at Arcelor Mittal. The Clean Water Act requires the permittee to show the ecology of the receiving waterway is protected.

Any impact of thermal discharge needs to be documented and corrected.

Section 301 of the Clean Water Act requires that NPDES permits “shall require application of “Best Available Technology” to reduce discharges to the extent “technologically and economically achievable,” including “elimination of discharges of all pollutants” if it is achievable.

The Clean Water Act requires that “the discharge of any pollutant by any person shall be unlawful” except if authorized by a NPDES permit. The Act further defines “discharge of a pollutant” to mean “any addition of any pollutant to navigable waters from any point source.” Requiring effluent limitations for even small discharges of pollutants is consistent with the Clean Water Act’s statutory goal of “elimination of discharges of all pollutants.”

Arcelor Mittal and the other factories have come a long way but still have a long way to go. Lake Michigan does not belong to them, it belongs to the public and your job is to make sure this incredible resource is protected for our use and for future generations.

Response 27: Constant monitoring for all outfalls for all pollutant and all chemicals is not feasible. In addition, the permittee demonstrates compliance with the CWA by taking representative samples of the discharge on a routine basis.

**Mr. Ted Oberc, Concerned Citizen, submitted a written statement on the issuance of the permit. IDEM hereby acknowledges receipt of Mr. Oberc's written statement, and is appreciative of his participation. IDEM made no to changes to either the permit or fact sheet in response, but took all comments into consideration.**

**During the public hearing, held in Gary, Indiana, on September 15, 2011, statements were read by Mr. Kevin Doyle, Environmental Manager, ArcelorMittal and Mr. Patrick Gorman, Indiana Steel Environmental Group Facilitator. Transcripts of the statements can be found at <http://www.in.gov/idem/5338.htm>**